

### **Abstract**

Disclosed is a process for the treatment of a plant gaseous stream containing odor compounds including hydrogen sulfide, an alkyl mercaptan or an alkyl thiol and mixtures thereof by contacting the plant stream with an oxidizing agent that reduces the 5 odor but forms elemental sulfur. The elemental sulfur, and other inorganic, scales that form, or deposit, can be suppressed or removed using a specific aromatic substituted nonionic surfactant material. The use of such a process produces a significant improvement in odor quality while maintaining a clean process facility and low operating pressure drop.